



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,430	04/10/2006	Paulus Cornelis Duineveld	NL 031207	3725

24737 7590 04/10/2008  
PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
P.O. BOX 3001  
BRIARCLIFF MANOR, NY 10510

EXAMINER
----------

RALEIGH, DONALD L

ART UNIT	PAPER NUMBER
----------	--------------

2879

MAIL DATE	DELIVERY MODE
-----------	---------------

04/10/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/575,430	<b>Applicant(s)</b> DUINEVELD ET AL.	
	<b>Examiner</b> DONALD L. RALEIGH	<b>Art Unit</b> 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Applicant's election without traverse of Claims 1-15 in the reply filed on January 28, 2008 is acknowledged.

Claims 1-15 are pending in the instant application.

#### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, and 7-10 are rejected under 35 U.S.C.102(b) as being anticipated by Marks et al (US Patent No. 7,094,121)

Regarding Claims 1 and 7, Marks discloses an electroluminescent display panel (2)(Column 6, lines 3-4) comprising a substrate (7)(Column 7, lines 15-16) and a plurality of display pixels (3)(Figure 13 and Col. 4, lines 44-46) including an electroluminescent material (Column 6, lines 9-11) defined on or over said substrate (Column 6, lines 9-11 luminescent medium between anode and cathode, thus is on anode substrate), wherein said display panel further

Art Unit: 2879

includes at least one microcontact printed (Column 13, lines 25-27 teaches that this process is widely used for patterning substrates) hydrophobic layer (11)(Column 24, lines 3-8 teaches a control layer (substrate) comprising a hydrophobic terminus) between at least some adjacent display pixels (3).

Regarding Claim 4, Marks discloses the electroluminescent display panel wherein said display panel (2) further comprises first and second electrodes (8,13)(Column 1, lines 27-29; anodic and cathodic electrodes) for said display pixels (3)(Column 22, lines 22-24) and a protection layer (6) isolating said first from said second electrodes (6,13).

Marks discloses a control layer between the first and second electrode (Column 24, lines 4-8) which could function as a protective layer. In addition, Marks teaches that the control layer comprises a silicon moiety (Column 24, lines 7-8). The applicant's specification states that the protection layer may be silicon dioxide (page 3, lines 8-9) which is a silicon moiety.]

Regarding Claim 8, Marks discloses a method for manufacturing an electroluminescent display panel (2)(Column 6, lines 3-4) comprising the steps of:

- providing a substrate (7)(Column 7, lines 15-16);
- providing a hydrophobic layer (11)(Column 24,lines 3-8) on or over said substrate by microcontact printing (Column 13, lines 25-27).

Regarding Claim 9, Marks discloses wherein said method further comprises the steps of providing a protection layer (6) on or over said first substrate (7)(Column 7, lines 15-16);

- patterning said protection layer (6) to determine display pixel areas (3)(Column 22, lines 22-24);

- providing said hydrophobic layer (11)(Column 24, lines 3-8) between said display pixel areas (3)(Column 22, lines 22-24) by microcontact printing (Column 13, lines 25-27).

Regarding Claim 10, Marks discloses wherein said method further comprises the steps of:

depositing at least one electroluminescent material (12)(Column 6, lines 9-11) over said substrate (7) (Column 7, lines 15-16); providing a metallic layer (13) on or over at least said electroluminescent material (12)(Column 6, lines 9-11).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-3 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marks in view of Sirringhaus et al (US Patent No. 6,808,972).

Regarding Claim 2, Mark fails to exemplify the electroluminescent display panel wherein said hydrophobic layer (11) is a self-assembling monolayer.

In the same field of endeavor, Sirringhaus teaches (Col.14, lines 34-40) a substrate containing hydrophobic elements with a patterned self-assembled monolayer in order to print very thin polyimide films that are thinner than the inkjet droplets (Column 14, lines 3-6).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the hydrophobic elements with a patterned self-assembled monolayer of Sirringhaus into the method of fabricating an electroluminescent display panel of Marks in order to print very thin polyimide films that are thinner than the inkjet droplets (Column 14, lines 3-6).

Regarding Claim 3, Marks fails to exemplify the electroluminescent display panel wherein said substrate (7) is a flexible substrate.

In the same field of endeavor, Sirringhaus teaches (Column 1, lines 25-29) a flexible substrate in order to achieve cheap large-area solutions.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the flexible substrate of Sirringhaus into the electroluminescent display panel of Marks in order to achieve cheap large-area solutions .

Regarding Claim 11, Marks fails to exemplify the method of manufacturing an electroluminescent display panel wherein said hydrophobic layer (Column 24, lines 3-8] is obtained by fluorinating a microcontact printed layer (11)(Column 13, lines 25-27].

In the same field of endeavor, Stirringhaus teaches (Column 14, lines 35-44] the process of providing a fluorinated hydrophobic layer , which can be patterned by microcontact printing when printing very thin polyimide films that are thinner than the inkjet droplets .

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the process of providing a fluorinated hydrophobic layer , as taught by Sirringhaus, into the method of Marks when printing very thin polyimide films that are thinner than the inkjet droplets .

Regarding Claim 12, , Marks fails to exemplify the method of manufacturing an electroluminescent display panel wherein said hydrophobic layer is microcontact printed on an inorganic layer, such as SiO<sub>2</sub> or ITO.

In the same field of endeavor, Stirringhaus teaches a microcontact printed hydrophobic layer (Column 14, lines 34-43) and on the surface of a SiO<sub>2</sub> layer (Column 14, lines 60-61) in order to form stable monolayers on the surface of the SiO<sub>2</sub>.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the process of providing a microcontact printed hydrophobic layer on the surface of a SiO<sub>2</sub> layer, as taught by Sirringhaus, into the method of Marks in order to form stable monolayers on the surface of the SiO<sub>2</sub>.

Regarding Claim 13, : Marks fails to exemplify the method of manufacturing an electroluminescent display panel wherein said hydrophobic layer (11) is trimethoxy(3,3,3-trifluoropropyl)silane.

In the same field of endeavor, Sirringhaus teaches (Column 14, lines 35-40) using above compound in a hydrophobic layer in order to achieve functionalization of the surface of the glass substrate with a patterned self-assembled monolayer (Column 14, lines 36-37).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the process of adding trimethoxy(r,r,r-trifluoropropyl)silane to the hydrophobic layer, as taught by Sirringhaus, into the method of Marks in order to achieve functionalization of the surface of the glass substrate with a patterned self-assembled monolayer (Column 14, lines 36-37).

Regarding Claim 14, Marks fails to exemplify the method of manufacturing an electroluminescent display panel wherein said hydrophobic layer is microcontact printed on a polymer layer.

In the same field of endeavor, Stirringhaus teaches (Column 14, lines 57-65) microcontact printing a monolayer on a polymer dielectric layer (gate dielectric polymer)



in order to form a stable monolayer (Column 14, line 60-61)(The monolayer refers to hydrophobic layer of Column 14, lines 35-44]

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the printing of a monolayer on a polymer dielectric layer, as taught by Stirringhaus into the method of fabricating an electroluminescent display panel of Marks in order to form a stable monolayer.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marks in view of Kim et al (US PG Pub. No. 2003/0222267)

Regarding Claim 5, Marks fails to exemplify the electroluminescent display panel in that the hydrophobic layer (11) is defined on or over at least a part of said protection layer (11).

In the same field of endeavor, Kim teaches an organic electroluminescent device (abstract line 1) in that the hydrophobic layer (abstract, line 9) is defined on or over at least a part of said protection layer (line 4 (buffer layer))(The buffer layer is also between the electrodes )..

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the hydrophobic layer on the protection layer as taught by Kim into the display panel of Marks in order protect the device from moisture.

Regarding Claim 6, Marks discloses wherein said microcontact printed hydrophobic layer (11)(Column 24, line 8) exposes a part (6A) of said protection layer (6)(Column 24, lines 4-8, control layer) to said electroluminescent material (12) (Col.6, lines 9-11).

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marks in view of Sirringhaus and further in view of Cox (US Patent No. 6,166,439) and Chilkoti et al (US PG Pub. No. 2003/0059537)

Regarding Claim 15 : Marks as modified by Sirringhaus fails to exemplify the method of manufacturing an electroluminescent display panel wherein said hydrophobic layer is obtained by the steps of: microcontact printing of poly(tert-butylacrylate) on a polyethylene layer;

wet-chemical treatment of said poly(tert-butylacrylate) to yield a polyacrylic acid hyperbranched film; fluorination of at least a part of said polyacrylic acid hyperbranched film.

Chilkoti teaches (Paragraph [0139], lines 5-6) using microcontact printing (also, the title (microstamping)) of poly(tert-butylacrylate) on a polyethylene layer.

Paragraph [0068], lines 1-19 teaches the combination of polyethylene (line 8) and polyacrylates (line 12) which would include poly(tert-butylacrylate) to impart non-biodegradable hydrophobic properties to the backbones of the comb copolymers (Paragraph [0068], lines 5-7).

In the same field of endeavor, Cox teaches wet-chemical treatment (Column 7, line 59 (hydrolysis)) of said poly(tert-butylacrylate (lines 58-59) to yield a polyacrylic acid (line 60) hyperbranched film (lines 61-62, high degree of branching) and fluorination of at least a part of said polyacrylic acid hyperbranched film (line 55, addition of fluorinated polymer) in order to bond a polymeric material to an insulating layer or a substrate. (Abstract, lines 5-11).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the microcontact printing of polyacrylates (poly(tert-butylacrylate) on a polyethylene layer of Chilkoti and using the wet chemical treatment and fluorination of Cox in manufacturing the electroluminescent display panel of Marks as modified by Sirringhaus, in order to bond a polymeric material to an insulating layer or a substrate and to impart non-biodegradable hydrophobic properties to the backbones of the comb copolymers .

### ***Conclusion***

Examiner's note: Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DONALD L. RALEIGH whose telephone number is

Art Unit: 2879

(571)270-3407. The examiner can normally be reached on Monday-Friday 7:30AM to 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Donald L Raleigh/  
Examiner, Art Unit 2879

/Nimeshkumar Patel/  
Supervisory Patent Examiner, Art Unit 2879